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| 09/887,655 | 06/22/2001 | Avraham T. Freedman | 12293-79 | 7163 |
| 50086 | 7590 | 06/09/2005 | EXAMINER | |
| LAW OFFICE OF DAVID H. JUDSON 15950 DALLAS PARKWAY SUITE 225 DALLAS, TX 75248 | | | JOO, JOSHUA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2154 | |

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,655

Applicant(s)

FREEDMAN, AVRAHAM T.

Examiner

Joshua Joo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

RD

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1. Claims 1-13 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-7, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tirosh et al, US Patent #2003/0141093 (Tirosh hereinafter) in view of Schoffelman et al, US Patent #6,119,170 (Schoffelman hereinafter).

4. As per claims 1 and 13, Tirosh teaches substantially the invention as claimed including the method and apparatus to reconfigure a router and reroute traffic from one path to another. Tirosh's teachings comprise of:

code executed in accordance with a set of one or more configurable parameters to initiate periodic path quality measurements for each set of a set of a transit network/destination links (Paragraph 0020; 0037. Conducts quality measurements across sub-networks; Paragraph 0021. Application server instructs the router.), wherein where an overriding test route identifying each transmit network/destination network link is configured into the router at the time of the path quality measurement (Paragraph 0017. Updates router to change the set of possible output paths.),

code executed following the path quality measurements for evaluating whether a first transit network/destination network link is a candidate for rerouting to a second transit

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network/destination network link (Paragraph 0022. Determines transmission characteristics for reroute.) ;

code responsive to satisfaction of a given path evaluation criteria and being executed to establish a communication with the router to facilitate a reroute from the first to the second transit network/destination network link (Paragraph 0022. Reroutes to alternative path.).

5. Tirosh teaches that a network management system may update the router, so that the set of output paths is changed (Paragraph 0017). However, Tirosh does not teach the apparatus where an overriding test route identifying each transmit network/destination network link is withdrawn after the measurement.

6. Schoffelman teaches of a mulihomed system where the routing table is dynamically updated (Col 9, lines 39-42, 53-56) and removed from the router (Col 10, lines 6-9).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Schoffelman because both Tirosh and Schoffelman teach of updating the routing list. Furthermore, the teachings of Schoffelman to dynamically update the routing list and remove routes would enhance the capability of Tirosh's teachings by allowing the administrator to control which paths the router uses to route traffic.

8. As per claim 2, Tirosh teaches the apparatus of claim 1, where the apparatus includes an interface for enabling setting of the one or more configurable parameters (Paragraph 0021. Interface for instructing the router.).

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9. As per claim 3, Tirosh teaches the apparatus as described in claim 2, wherein the configurable parameters include a probe type (Paragraph 0023. Probe.).

10. As per claim 5, Tirosh teaches the apparatus of claim 2, wherein the configurable parameters include a list, identifying destination networks links to be evaluated (Paragraph 0017. Set of possible output paths may be changed. Paragraph 0023. Paths are monitored.).

11. As per claim 6, Tirosh teaches the apparatus as described in claim 2 wherein the configurable parameters include a given IP address within a given destination network (Paragraph 0021. IP address is provided.).

12. As per claim 7, Tirosh teaches the apparatus of claim 1, where the apparatus has code responsive to satisfaction of the given path evaluation criteria (Paragraph 0023. Determines transmission characteristics.) and being executed to output a recommendation illustrating a reroute from the first to the second transit network/destination network link (Paragraph 0024. QoS management system may change routes from received data.).

13. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tirosh and Schoffelman in view of Klinker et al, US Publication #2002/0145981 (Klinker hereinafter).

14. As per claim 4, Tirosh does not teach the apparatus as described in claim 3, wherein the probe type is an ICMP packet.

15. Klinker teaches of using an ICMP packet to measure the network (Paragraph 0064-0065).

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16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Klinker because both Tirosh and Klinker teach of measuring the network to make routing decisions. Furthermore, the teachings of Klinker to use an ICMP packet would improve the measurement of the network in Tirosh's teachings because an ICMP records the route trip time to a specific destination.

17. As per claim 8, Tirosh does not teach the apparatus as described in claim 1 wherein the test route is configured into the router by establishing an internal BGP (iBGP) peering session over which routing update information identifying the test route is passed.

18. Klinker teaches of communicating new routing tables to a router using an iBGP session (Paragraph 0126).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Klinker because both Tirosh and Klinker teach of measuring the network to make routing decisions. Furthermore, the teachings of Klinker to use an iBGP session to communicate to the router would improve the capability of the teachings of Tirosh because iBGP will allow routers to communicate with each other within an autonomous network.

20. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tirosh and Schoffelman in view of Shafter, US Publication #2002/0191619.

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21. As per claim 9, Shafer does not teach the apparatus as described in claim 1 wherein the test route is configured into the router by establishing a secure connection between the apparatus and a configuration program executing in the router.

22. Shafer teaches of establishing a secure connection with a router (Paragraph 0006).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teachings of Tirosh and Shafer because the teachings of Shafer to establish a secure connection with the router would improve the security of the system of Tirosh by preventing unauthorized monitoring or connection to the router.

24. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tirosh in view of Callon, US Patent #5,633,866.

25. As per claim 10, Tirosh teaches substantially the claimed invention including the method and apparatus to reconfigure a router and reroute traffic from one path to another. Tirosh's teachings comprise of:

periodically conducting local traffic analysis of outgoing packets transmitted to a set of IP addresses in the destination autonomous system (Paragraph 0032; 0037 Measures quality of each link.);

based on data collected during the local traffic analysis, selecting a transmit autonomous system for a given destination autonomous system given the then-existing connectivity conditions (Paragraph 0023. Selects alternate path based on transmission characteristics.);

and

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automatically logging into the router and entering a new configuration to cause the router to reevaluate all routes heard from the selected transit autonomous system according to the new configuration (Paragraph 0017; 0022. Automatically configures router to route the information.).

26. Tirosh does not specifically teach of selecting a best transmit autonomous system.

27. Callon teaches of routing packets in a network environment where the best route is selected (Col 14, lines 5-7).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Callon because both teachings deal with selecting a route among a plurality of routes to route data. Furthermore, the teachings of Callon to select the best route would improve the quality of service of Tirosh's teachings because the best route will provide optimal routing and will provide better services than the other routes.

29. As per claim 12, Tirosh does not teach the method as described in claim 10, wherein the best transit autonomous system for a given destination autonomous system is selected according to a given path evaluation algorithm.

30. Callon teaches that the best route is selected according different routing calculations (Col 14, lines 1-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Callon because both teachings deal with selecting a route among a plurality of routes to route data. Furthermore, the teachings of Callon to select

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the route based on routing calculations would improve the capability of Tirosh's invention by ensuring that the best route is selected from the plurality of routes.

31. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tirosh and Callon in view of Klinker.

32. As per claim 11, Tirosh does not teach the method as described in claim 10 wherein the outgoing packets are ICMP packets.

33. Klinker teaches of using an ICMP packet to measure the network (Paragraph 0064-0065).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tirosh and Klinker because both Tirosh and Klinker teach of measuring the network to make routing decisions. Furthermore, the teachings of Klinker to use an ICMP packet would improve the measurement of the network in Tirosh's teachings because an ICMP records the route trip time to a specific destination.

Response to Arguments

35. Applicant's arguments, filed 3/25/2005, with respect to the rejection(s) of claim(s) 1, 10, and 13 under Ginzboorg have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tirosh .

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Conclusion

36. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Friday 7 to 4.

38. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on 571 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

39. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 31, 2005
JJ

 JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
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